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Evaluating the life quality of patients with diseases of oral mucosa referred to Kerman Dental School, Kerman, Iran, in 2014-2015

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Original Article

Abstract

BACKGROUND AND AIM: This study evaluated the quality of life (QOL) of patients with diseases of oral mucosa referred to Kerman Dental School, Kerman, Iran during 2014-2015.

METHODS: Total of 101 patients seen in the Kerman Department of Oral Medicine with chronic oral mucosal diseases were included in the study. They completed the designed questionnaire to assess their QOL. After the final edit, the questionnaire was filled by the subjects. Data were analyzed by t-test, chi-square, Pearson's correlation, analysis of variance, and post-hoc analysis using SPSS. The level of significance for all data analysis was < 0.05.

RESULTS: In this study, 101 patients with oral lesions were studied, [57 women (56.4%) and 44 men (43.6%)]. The patients' age range was 19-65 years and the average age was 32.4 ± 5.6 years. Patients older than 35 years of age reported significantly lower QOL in the domain of social and emotional status. Significant age-related differences in QOL were not observed in other domains. Men reported significantly better oral health-related QOL in pain and functional limitation than women. Significant differences were observed between the disease groups only for recurrent aphthous ulcers and pemphigus.

CONCLUSION: The present study indicated that chronic oral mucosal diseases affect patients' QOL. Therefore, it seems that oral disease specialists play a key role in the treatment of these patients, including the disease management and symptomatic treatment, and in managing all issues affecting patients' living conditions.

KEYWORDS: Quality of Life; Chronic Diseases; Mouth Mucosa

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Chronic oral mucosal diseases include autoimmune and inflammatory diseases, diseases of the soft tissues of the mouth, mouth ulcers and lichenoid lesions. These conditions, like other mouth diseases, can lead to significant adverse physical, social and psychological consequences for patients.[1] Patients with these disorders have to be frequently examined for oral diseases in a clinical setting and usually be monitored for a long time. Some of these diseases can potentially lead to development of life-threatening conditions[2] and such chronic conditions of the oral mucosa can not only influence patients' daily life, but also lead to long and expensive treatments. In addition, side effects of these treatments can also affect patients' daily lives.[3]

Studies have shown that oral diseases have a tremendous impact on people's everyday life and are associated with physical, economic, social and psychological consequences as well.[4-6] Hegarty et al.[2]

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examined the effect of oral diseases on quality of life (QOL) and priority of oral health specific measures that are not widely used for oral diseases.[7]

Although many QOL-related tools have been developed for the general population, they do not usually assess small significant clinical changes that lead to the development of a specific disease. Disease-specific questionnaires report the health aspects considered by patients or doctors to have the highest degree of importance. These questionnaires are very sensitive to change and compared to generic measures, predict clinical changes more precisely.[8] Although life quality scales have progressed and reported to a large extent, no sequence scale in the field of oral diseases has been progressed.[9,10] Streiner and Norman have proposed a specific and generic questionnaire to measure the QOL.[11]

Ni Riordain and McCreary reported that oral health-related life quality is the most commonly used health-related life quality for oral diseases.[3] Although the questionnaire is a valid and reliable scale, it is not void of faults and defects.[4] Allen and Locker have stressed some objections regarding the scale, including the disproportionate application of this scale in some population groups, its significant effects and poor response.[12]

Reports on the evaluation of treatment of oral diseases are limited.[13-16] Studies conducted on the impacts of chronic oral mucosal diseases on people's daily life by Ni Riordain et al.[17,18] indicated that patients' viewpoints can be correlated with biopsychosocial issues, therapeutic limitations and side effects, unpredictable conditions, the possibility of malignant lesions, and issues related to health care. The purpose of this study was to evaluate the QOL of patients with chronic oral mucosal diseases referred to Kerman Dental School, Kerman, Iran.

Methods

In this cross-sectional analytic-descriptive study (ethical code K-125-94), the appended questionnaire was used to assess the QOL of patients with chronic oral mucosal diseases. In this study, 124 questionnaires were distributed, of which 101 (81.5%) were returned. The demographic information such as age, gender, and occupation were recorded. The questionnaire contains 24 items. Patients selected the appropriate responses to the items among options classified according to a Likert-type scale (1 = never, 2 = little, 3 = moderate, 4 = relatively high, 5 = very high) and finally patients' QOL was determined based on their score. Score of questionnaire ranged from 24 to 120. Different items and their scoring were as follows: items related to pain and limited function (items 1 to 9, score 1-45), the use of medication and treatment (items 10 to 15, score 1-30), the social and psychological effects (items 16 to 22, score 1-35) and patient support (items 23 to 26, score 20).

The diagnosis of a chronic oral mucosal disease was established based on the history, clinical examination and hematological and histological investigations (biopsy of white, pigmented, exophytic lesions, and laboratory examinations of oral aphthous ulcers). In this study, 101 subjects aged over 18 years of age who suffered from oral lesions, including ulcers and white and exophytic lesions were examined. They were selected from patients referred to the dental school. Before each examination, the study aim was described and, if desired, the forms were offered to the individual. Meanwhile, all the subjects were assured that obtained information will remain confidential and will only be used for statistical analysis.

The questionnaire was designed based on the qualitative research studies conducted by Ni Riordain et al.[17] and Habib Aghahi et al.[19] To validate the questionnaire, it was rated by seven experts from Kerman Dental School and they were asked to score the questions from totally appropriate to totally inappropriate and the level of each question and its comprehensibility was discussed by the subjects. After this step, 11 questions were rated appropriate and two

questions were removed due to their inappropriateness. To obtain reliability of the questions, the questionnaire was filled by 10 subjects within 2 weeks. Cronbach's Alpha was 0.78 which was good and reliability of the questions was 0.74 to 0.85. After the final edit, the questionnaire was filled by the subjects. Data were analyzed by t-test, chi-square, Pearson correlation, ANOVA, post hoc analysis using SPSS software (version 21, IBM Corporation, Armonk, NY, USA). The level of significance for all analysis was $P < 0.05$.

Results

In this study, 101 patients with oral lesions were studied, [57 women (56.4%) and 44 men (43.6%)]. The patients' age range was 19-65 years and the average age was 32.4 ± 5.6 years (men 36.6 ± 7.4 and women 31.5 ± 4.8). Table 1 represents the demographic features of the subjects. Sixty-five patients (64.3%), in this study, reported that their disease was diagnosed with deferment.

In the current study, 63 subjects reported taking medication. Drugs was recommended by dentists rather than oral medicine specialist. The most commonly used drugs included chlorhexidine, benzydamine and corticosteroid. The study indicated that almost all patients were concerned about their disease getting worse (98.0% and 97.2%) and no significant correlation was reported between gender, education, and age and concerns about the disease getting worse over time ($P = 0.120$, $P = 0.230$, $P = 0.190$, respectively).

The scores obtained by the patients on items related to pain and limited function (items 1 to 9), the use of medication and treatment (items 10 to 15), the social and psychological effects (items 16 to 22) and support (items 23 to 26) are shown in table 2. The present study indicated that scores obtained by the patients on the subscales of pain and limited function, social and psychological effects and family members' and friends' support were average. Considering drugs and their side effects, the scores were low. A significant association was observed between medicinal treatment and social and psychological status of patients and their pain and limited function (Table 3).

Table1. Demographic characteristics of the patients

Characteristics	n (%)
Sex	
Male	44 (43.6)
Female	57 (56.4)
Occupation	
Employed	3 (6.8)
Unemployed	98 (93.2)
Education	
< Diploma	29 (28.7)
≥ Diploma	72 (71.3)
Type of disease	
Pemphigus	10 (9.9)
Lichen planus	22 (21.7)
Oral aphthous	32 (31.7)
Leukoplakia	9 (9.0)
Exophytic lesions	28 (27.7)

Scores of the questionnaire ranged from 24 to 120. The mean score of the questionnaire was 89.23 ± 12.11 (women 90.13 ± 9.41 and men 85.33 ± 5.10). This study indicated a significant correlation between the scores on the questionnaire and gender and age, i.e. women and men younger than 35 years old gained higher scores ($P = 0.010$ and $P = 0.020$, respectively).

Table 2. The overall score and scores obtained by the patients in the questionnaire subscales

Questionnaire subscales	Mean ± SD	Total average questionnaire score (%)	Scores domain	Severity level*
Pain and functional limitation	26.53 ± 4.15	58.90	1-40	Moderate
Medication and treatment	24.32 ± 5.25	81.06	36-2	Mild
Social and emotional	26.03 ± 5.10	74.37	35-2	Moderate
Patient support	12.35 ± 3.05	61.20	20-2	Moderate
Total	89.23 ± 17.57	67.70	125-1	Moderate

*Score 0-25 percent: excellent quality of life, score 26-50 percent: good quality of life, score 51-75 percent: moderate quality of life, score 76-100 percent: poor quality of life, SD: Standard deviation

Table 3. Pearson correlations between questionnaire subscales

Karl Pearson correlation coefficient		Pain and functional limitation	Medication and treatment	Social and emotional	Patient support	Total
Pain and functional limitation	R	-	0.625*	0.741	0.155	0.825*
	P	-	< 0.001	< 0.001	0.134	< 0.001
Medication and treatment	R	0.625*	-	0.675*	0.195	0.754*
	P	< 0.001	-	< 0.001	0.125	< 0.001
Social and emotional	R	0.712*	0.675*	-	0.345*	0.890*
	P	< 0.001	< 0.001	-	0.015	< 0.001
Patient support	R	0.155	0.195	0.345*	-	0.395*
	P	0.134	0.125	0.015	-	0.001
Total	R	0.825*	0.754*	0.890*	0.395*	-
	P	< 0.001	< 0.001	< 0.001	0.001	-

*A correlation is significant at the 0.01 level (two-tailed)

Moreover, comparison of the age groups revealed a significant relationship between age and lower scores on the social and psychological status subscale (Table 4).

Patients with diseases such as oral aphthous and pemphigus obtained higher scores on the questionnaire (92.55 ± 17.54 and 91.25 ± 18.60, respectively), and these diseases were found to have a greater impact on patients' QOL (Tables 5 and 6).

Table 4. Correlation between scores on the questionnaire subscales and age

Pearson's correlation coefficient	R	P
Pain and functional limitation	0.251	0.060
Medication and treatment	0.108	0.120
Social and emotional	0.275	0.010*
Patient support	0.230	0.07
Total	0.274	0.020*

*Statistically significant (P < 0.05)

Table 5. Scores on the questionnaire subscales according to the type of the disease

Conditions	n	Mean ± SD	ANOVA
Pain and functional limitation			
Oral lichen planus	22	23.33 ± 5.12	3.458
RAS	32	28.21 ± 6.12	
Pemphigus	10	29.12 ± 5.15	
Leukoplakia	9	19.12 ± 5.14	
Exophytic lesions	28	19.43 ± 4.22	
Total	101	26.53 ± 4.15	
Medication and treatment			
Oral lichen planus	22	27.22 ± 5.12	2.585
RAS	32	26.42 ± 6.21	
Pemphigus	10	4.44 ± 28.12	
Leukoplakia	9	4.04 ± 20.12	
Exophytic lesions	28	4.15 ± 20.22	
Total	101	5.25 ± 24.32	
Social and emotional			
Oral lichen planus	22	4.12 ± 30.03	0.312
RAS	32	5.54 ± 30.14	
Pemphigus	10	5.15 ± 29.15	
Leukoplakia	9	5.14 ± 21.41	
Exophytic lesions	28	4.12 ± 20.54	
Total	101	5.10 ± 26.03	
Patient support			
Oral lichen planus	22	3.14 ± 11.54	0.194
RAS	32	3.25 ± 11.15	
Pemphigus	10	4.15 ± 12.47	
Leukoplakia	9	2.27 ± 14.54	
Exophytic lesions	28	3.15 ± 12.05	
Total	101	3.05 ± 12.35	
Total			
Oral lichen planus	22	15.50 ± 91.01	4.547
RAS	32	17.54 ± 92.55	
Pemphigus	10	18.60 ± 91.25	
Leukoplakia	9	17.16 ± 85.45	
Exophytic lesions	28	18.65 ± 89.22	
Total	101	17.57 ± 89.23	

RAS: Recurrent aphthous stomatitis; SD: Standard deviation

Table 6. Scores on the questionnaire subscales according to the type of the disease

		Dependent variable, P				
		Pain and functional limitation	Medication and treatment	Social and emotional	Patient support	Total
Oral lichen planus	RAS	> 0.999	0.325	0.328	> 0.999	0.358
	Pemphigus	0.075	0.812	0.245	> 0.999	0.125
	Leukoplakia	0.084	0.084	0.076	> 0.999	0.248
	Exophytic lesions	> 0.999	> 0.999	> 0.999	> 0.999	> 0.999
RAS	Oral lichen planus	> 0.999	0.325	0.328	> 0.999	0.358
	Pemphigus	0.015*	0.035*	0.012*	> 0.999	0.015*
	Leukoplakia	0.065	0.317	0.315	> 0.999	0.412
	Exophytic lesions	0.071	0.079	> 0.999	> 0.999	0.231
Pemphigus	Oral lichen planus	0.075	0.812	0.245	> 0.999	0.125
	Exophytic lesions	0.068	0.065	0.165	> 0.999	0.073
	Leukoplakia	0.076	0.317	0.425	> 0.999	0.189
	RAS	0.015*	0.035*	0.012*	> 0.999	0.015*
Leukoplakia	Oral lichen planus	0.084	0.084	0.076	> 0.999	0.248
	Exophytic lesions	0.085	0.086	0.068	> 0.999	0.215
	RAS	0.065	0.317	0.315	> 0.999	0.412
	Pemphigus	0.076	0.317	0.425	> 0.999	0.189
Exophytic lesions	Oral lichen planus	> 0.999	> 0.999	> 0.999	> 0.999	> 0.999
	Pemphigus	0.068	0.065	0.165	> 0.999	0.073
	RAS	0.071	0.079	> 0.999	> 0.999	0.231
	Leukoplakia	0.085	0.086	0.068	> 0.999	0.215

RAS: Recurrent aphthous stomatitis
*Statistically significant (P < 0.05)

Discussion

This study addressed the impact of oral mucosal chronic diseases on the QOL. These diseases cause pain and limited function, have social, psychological, and pharmacological effects, and cause support problems. The study indicated that pain and limited function were mainly experienced by patients during their daily lives causing effects such as changes in diet and limitation of the consumption of certain beverages and foods that is consistent with the results of Ni Riordain et al.[17] and Rajan et al.[20]

Llewellyn and Warnakulasuriya investigated oral and dental diseases such as aphthous ulcers, lichen planus, oral candidiasis, burning and dryness of mouth, and temporomandibular disorders using Oral Health Impact Profile-14 (OHIP-14) and found that these can seriously affect oral health-related quality of life (OHRQOL).[21] Mumcu et al. examined the effect of a mouth illness and recurrent aphthous ulcers on QOL using OHIP-14 and indicated that patients with active mouth ulcers had a lower QOL compared to patients without ulcers.[16] Hegarty et al. showed that oral lichen planus is painful and is associated with poor OHQOL.[2]

The present study revealed that the severity of pain, psychological status and function in patients with pemphigus and aphthous ulcers was affected and people with these problems had a lower life quality compared to patients with lesions of leukoplakia, exophytic lesions and lichen planus. This finding was consistent with the results of previously conducted studies.[2,14,20,22]

The literature shows that oral and dental problems can cause pain, discomfort and difficulty in eating, social relationships, and physical appearance. Accordingly, functional limitations and pain caused by these diseases should be rightfully assessed and appropriate treatments should be proposed to help patients to improve their life quality.[23,24]

In this study, women and those with older age reported poorer QOL which is consistent with the results of Rajan et al.[20] who reported that patients' QOL can be attributed to the

deterioration of social and emotional status. However, proper education and counseling regarding diseases of oral mucosa and reassuring the patients about the success of treatment and the availability of treatment can prevent the life quality in people with needy economic situation from dropping.

Delay in receiving the diagnosis experienced by patients was another thought-provoking issue. Visiting several doctors was reported as the most common cause of delay in diagnosis in this context. Studies have shown that patients with oral lesions face various problems among which delay in diagnosis and treatment can be considered as the most important one. Jovanovic et al.[25] conducted a research on the referral pattern of patients with oral mucosal lesions in 1992 in Netherlands and found that these patients' family doctors referred them to different medical specialists instead of a dentist. However, in most general medical courses, specialists are not precisely taught about the structure of the mouth, teeth and related diseases as an independent topic.

Haberland et al.[26] found that the average time between the appearance of primary symptoms and the time of examination by an oral disease specialist is about 15 months. Oral diseases are one of the professional disciplines of dentistry. Treatment of mucosal lesions is included in the practice of these specialists. Such lesions may belong to different topical lesions of oral mucosa or might be symptoms of systemic disease. Unfortunately, most doctors and even dentists are not aware of the range of ability, performance and medical equipment required for the specialty of oral diseases. This issue along with the lack of education on oral mucosa diseases in students of dentistry and lack of familiarity of different specialists with these diseases cause inappropriate and unnecessary diagnosis or treatment for most patients with mouth lesions.[27]

In addition, low awareness of clinical features and conditions of these chronic diseases is a concern. In the literature, the dental information of doctors who are engaged in the area of primary care is noted to be scarce and improvements are offered.[17,28,29] A possible reason for delay in the diagnosis is the lack of regular contact of doctors and dentists with oral diseases specialists, as the result of which inappropriate referrals occurr. Almost half of the patients in this study had at least once visited a doctor or a dentist, before referring to the oral diseases section. This is compatible with the studies of Ni Riordain et al.[17] and Miller et al.[30] The findings of Haberland et al.'s study showed that patients were examined by an average of 2.2 general practitioners before being visited by an oral diseases specialist.[26]

There is no doubt that the advancement of science on the oral cavity and soft tissue infections causes faster and more accurate referrals. Appropriate and timely referrals not only decrease delayed diagnosis, but also create more readiness to provide adequate services. Spending unnecessary time, especially during examinations, can lead to increased waiting time for patients who need medical services. Increases in financial cost and improper management for consulting are the outcomes of insufficient and unsuitable care for the patients. Advance knowledge of the medical community, especially in the field of oral diseases, and the performance and capabilities of specialists in this field are key factors affecting the improvement of the management of chronic oral mucosal diseases.[17]

Conclusion

The present study indicated that chronic oral mucosal diseases affect patients' QOL. Therefore, it seems that oral disease specialists play a key role in the treatment of patients with chronic oral mucosal diseases, including disease management and symptomatic treatment, and in managing all issues affecting patients' living conditions.

Conflict of Interests

Authors have no conflict of interest.

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